

### Comparison of Air-Purifying Respirators for Protecting Poultry Workers\*

Respirator type	Advantages	Disadvantages	Cost (2004 dollars)
Filtering facepiece (disposable; dust mask)	<ul style="list-style-type: none"> <li>▪ Lightweight.</li> <li>▪ No maintenance or cleaning needed.</li> <li>▪ No effect on mobility.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provides no eye protection.</li> <li>▪ Provides no protection against irritant gases such as ammonia.</li> <li>▪ Can add to heat burden.</li> <li>▪ Inward leakage at gaps in face seal.</li> <li>▪ Many models do not have adjustable head straps.</li> <li>▪ Difficult for a user to do a seal check.</li> <li>▪ Level of protection varies greatly among models.</li> <li>▪ Communication may be difficult.</li> <li>▪ Fit testing required to select proper facepiece size.</li> <li>▪ Some eyewear may interfere with facepiece fit.</li> </ul>	\$0.70 - \$10
Elastomeric half-facepiece	<ul style="list-style-type: none"> <li>▪ Low maintenance.</li> <li>▪ Reusable facepiece and replaceable, filters and cartridges.</li> <li>▪ Dual cartridges can be used to protect workers from exposures to particles, gases, and vapors.</li> <li>▪ No effect on mobility.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provides no eye protection.</li> <li>▪ Can add to heat burden.</li> <li>▪ Inward leakage at gaps in face seal.</li> <li>▪ Facepiece must be cleaned and disinfected before reuse, this can be a contact-exposure risk.</li> <li>▪ Communication may be difficult.</li> <li>▪ Fit testing required to select proper facepiece size.</li> <li>▪ Some eyewear may interfere with facepiece fit.</li> </ul>	Facepiece: \$12 - \$35 Filters: \$4 - \$8 each
Powered with hood, helmet, or loose-fitting facepiece	<ul style="list-style-type: none"> <li>▪ Provides eye protection.</li> <li>▪ Protection for people with beards, missing dentures, or facial scars.</li> <li>▪ Low breathing resistance.</li> <li>▪ Combination cartridges can be used for exposures to particles, gases, and vapors.</li> <li>▪ Flowing air creates cooling effect.</li> <li>▪ Face seal leakage is generally outward.</li> <li>▪ Fit testing is not required.</li> <li>▪ Prescription glasses can be worn.</li> <li>▪ Communication less difficult than with rubber half-facepiece or full-facepiece respirators.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Added weight of battery and blower.</li> <li>▪ Awkward to wear for some tasks.</li> <li>▪ Components must be cleaned and disinfected before reuse; this can be a contact-exposure risk.</li> <li>▪ Battery requires charging.</li> <li>▪ Air flow must be tested with flow device before use.</li> </ul>	Unit: \$400 - \$1000 Filters: \$10 - \$30

	<ul style="list-style-type: none"> <li>Reusable components and replaceable filters.</li> </ul>		
Elastomeric full-facepiece with N-100, R-100, or P-100 filters	<ul style="list-style-type: none"> <li>Provides eye protection.</li> <li>Low maintenance.</li> <li>Reusable facepiece and replaceable filters and cartridges.</li> <li>Combination cartridges can be used for exposures to particles, gases, and vapors.</li> <li>No effect on mobility.</li> <li>More effective face seal than that of filtering facepiece or rubber half-facepiece respirators.</li> </ul>	<ul style="list-style-type: none"> <li>Can add to heat burden.</li> <li>Reduced field-of-vision compared to half-facepiece.</li> <li>Inward leakage at gaps in face seal.</li> <li>Facepiece must be cleaned and disinfected before reuse; this can be a contact-exposure risk.</li> <li>Fit testing required to select proper facepiece size.</li> <li>Facepiece lens can fog without nose cup or lens treatment.</li> <li>Spectacle kit needed for people who wear corrective glasses.</li> </ul>	Facepiece: \$90 - \$240 Filters: \$4 - \$8 each Nose cup: \$30
Powered with tight-fitting half-facepiece or full-facepiece	<ul style="list-style-type: none"> <li>Provides eye protection with full-facepiece.</li> <li>Low breathing resistance.</li> <li>Face seal leakage is generally outward.</li> <li>Flowing air creates cooling effect.</li> <li>Reusable components and replaceable filters.</li> <li>Combination cartridges can be used for exposures to particles, gases, and vapors.</li> </ul>	<ul style="list-style-type: none"> <li>Added weight of battery and blower.</li> <li>Awkward to wear for some tasks.</li> <li>No eye protection with half-facepiece.</li> <li>Components must be cleaned and disinfected before reuse; this can be a contact-exposure risk.</li> <li>Fit testing required to select proper facepiece size.</li> <li>Battery requires charging.</li> <li>Communication may be difficult.</li> <li>Spectacle kit needed for people who wear corrective glasses with full-facepiece respirators.</li> <li>Air flow must be tested with flow device before use.</li> </ul>	Unit: \$500 - \$1000 Filters: \$10 - \$30

\* From U.S. Department of Labor, Occupational Health and Safety Administration (OSHA), "Advantages, Disadvantages, and Costs of Air-purifying Respirators for Protecting Poultry Workers," [Avian Influenza: Protecting Poultry Workers At Risk](http://www.osha.gov/dts/shib/shib121304.html)" (SHIB 12-13-2004) <<http://www.osha.gov/dts/shib/shib121304.html>>.